REMARKS

Claims 6-17 are currently pending. Claims 1-5 have been cancelled herein without prejudice or disclaimer. Claims 6-12, 15 and 16 have been amended. In addition, the Specification has been amended in two instances to correct typographical errors. Reconsideration is respectfully requested.

The Office Action includes an objection to claims 1, 2, 4, 6, 9, 11, 15 and 16 for alleged informalities. Given that claims 1, 2 and 4 have been cancelled, the objections to these claims are moot. Claim 6 and 9 have been amended to recite labels of "first" and "second" with reference to the object images formed by the first and second optical systems. No such change to claims 11 and 15 is warranted given that these claims each recite a single optical system. Moreover, claims 6, 7, 9, 11, 12, 15 and 16 have been amended, with regard to angle detector recitations, to change the recitation of the "object" to an appropriate "object image" (or an appropriate "portion" thereof). Support may be found, for example, in Figures 7 and 8 of the present application. Figure 7, for example, illustrates two overlapping regions M1 and M2 of an area sensor 22a that can detect first and second portions of an object image. Of course, the claims are not intended to be restricted to the examples illustrated in Figures 7 and 8. With regard to claim 16, the spelling error has been corrected. In some other instances, the claims have been amended to improve readability. In view of the above, withdrawal of the objections is respectfully requested.

The Office Action also includes a rejection of claims 1-17 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. As noted above, claims 1-5 have been canceled, and the rejection pertaining to these claims is therefore moot. Claims 6, 9, 11 and 15 have been amended to clarify that "position" is a characteristic related to images as opposed to signals. Moreover, these claims have been amended to delete the language "which corresponds to" that the Office finds objectionable.

With regard to the Office's comments distinguishing an object image from an object (i.e., an object image, rather than an object, is incident upon a sensor), one skilled in the art would understand from the present specification that determining the magnitude of an angle of an object image relative to an area sensor also provides the magnitude of the angle of the object relative to the area sensor. Nevertheless, as noted above, claims 6, 7, 9, 11, 12, 15 and 16, with regard to angle detector recitations, have been amended to change instances of "object" to an appropriate "object image" (or an appropriate "portion" thereof) to address the Office's rejection. In view of the above, withdrawal of the 35 U.S.C. §112, second paragraph rejections are respectfully requested. Moreover, none of the claim amendments made in this Amendment are intended to narrow the scopes of the affected claim recitations.

The Office Action includes a rejection of claims 1-17 under 35 U.S.C. §102(b) as allegedly being anticipated by the *Hasegawa et al.* patent (U.S. Patent No. 5,715,043). As noted above, claims 1-5 have been canceled, and the rejection against these claims is therefore moot. With regard to claims 6-17, the rejection is respectfully traversed.

With regards to independent claims 6 and 9, it is noted that these claims each recite, *inter alia*, a first area sensor and a second area sensor for receiving light of the first and second object images, respectively. In contrast, the *Hasegawa et al.* patent discloses line sensors, not area sensors. For example, the Office is respectfully directed to column 9, lines 32-35 of the *Hasegawa et al.* patent which refers to line sensors 4R, 4L, and 4LA discussed with reference to Figure 1 therein. Accordingly, since the *Hasegawa et al.* patent does not disclose using area sensors, claims 6 and 9 are not anticipated. Withdrawal of the rejection against claims 6 and 9 and allowance of these claims is respectfully requested. Claims 7, 8 and 10 depend from claims 6 and 9 and are allowable at least by virtue of dependency.

As noted in the present specification at page 21, lines 10-19, (pertaining to Figures 7 and 8 therein), the use of an area sensor permits detecting an object image using overlapping photoreception signals -- that is, by detecting an object image using overlapping regions of the same area sensor (see also, for example, regions M1 and M2 in Figure 7). As noted at page 21, lines 16 and 17, the detected part of the same object can be readily specified using such a configuration. Thus, the magnitude of the angle of the object relative to the area sensor can be easily detected with high precision (using the object image projected upon that area sensor and an analogous object image projected upon another area sensor).

Independent claim 15 recites an image sensing device comprising, *inter alia*, an area sensor for receiving light of an object image. Accordingly, claim 15 is not anticipated

by the *Hasegawa et al.* patent at least for reasons similar to those set forth above for claims 6 and 9. Accordingly, withdrawal of the rejection and allowance of claim 15 is respectfully requested. Claims 16 and 17 depend from claim 15, and these claims are therefore allowable at least by virtue of dependency.

Independent claim 11 recites an image sensing device comprising, *inter alia*, an optical system for forming an object image, a first sensor array arranged in the approximate image forming plane of the optical system for receiving light of the optical image, and a second sensor array arranged in the approximate image forming plane of the optical system for receiving light of the object image. In other words, both the first and second sensor arrays are arranged at an approximate image forming plane of the same optical system, and both the first and second sensor arrays receive light from the same object image formed using that optical system.

In contrast, the *Hasegawa et al.* patent does not disclose first and second sensor arrays receiving light through the same optical system wherein the first and second sensor arrays are arranged at the approximate image forming plane of that optical system. Rather, the *Hasegawa et al.* patent discloses first and second sensor arrays receiving light through different optical systems. Such configurations are illustrated in Figures 2, 3, 6, 26 and 36a of the *Hasegawa et al.* patent. Accordingly, for at least this reason, claim 11 is not anticipated by the *Hasegawa et al.* patent. Withdrawal of the rejection and allowance of claim 11 is respectfully requested. Claims 12-14 depend from claim 11 and are therefore allowable at least by virtue of dependency.

In light of the foregoing remarks, withdrawal of the objections and rejections of record and allowance of this application are respectfully solicited. Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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Paragraph beginning at Page 20, line 18

According to this construction, the angle formed by the object image and the second area sensor can be detected from the position of the first corresponding position on the second area sensor, and the position of the second corresponding position on the [third] second area sensor.

Paragraph bridging at Pages 23 and 24

If an angle ψ ($\psi \neq 90°$) is maintained by the object image relative to the sensor arrays 12b and 22b, the object image T is shifted on the first and the second sensor arrays 21b and 22b. That is, the object image [T] T_3 is formed on the first and the second sensor arrays 21b and 22b with an image interval Z.

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6. (Amended) An image sensing device comprising:

a first optical system for forming [an] a first object image;

a first area sensor arranged in the approximate image forming plane of the first optical system for receiving the light of the first object image;

a second optical system for forming [an] a second object image;

a second area sensor arranged in the approximate image forming plane of the second optical system for receiving the light of the second object image;

a signal reader for reading a first photoreception signal group from said first area sensor, a second photoreception signal group from said second area sensor and a third photoreception signal group from said second area sensor;

a position detector for detecting a position of a first portion of the second object image relative to the first image based upon the second photoreception signal group [which corresponds to] and the first photoreception signal group[, a] and for detecting a position of a second portion of the second object image relative to the first object image based upon the third photoreception signal group [which corresponds to] and the first photoreception signal group; and

an angle detector for detecting [the] a magnitude of [the] an angle of the second object image incident upon [against] said second area sensor based on the detected positions.

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7. (Amended) An image sensing device according to claim 6, wherein said angle detector detects the angle of the second object [and] image relative to said area sensors by means of data of relative positional relationship of said optical systems and said area sensors.

8. (Amended) An image sensing device according to claim 6, wherein at least part of the second and the third photoreception signal groups include photoreception signals [of the region of the] from a same part of the second area sensor [so as to overlap with each other].

9. (Amended) A distance measuring device comprising:

a first optical system for forming [an] a first object image;

a first area sensor arranged in the approximate image forming plane of the first optical system for receiving the light of the first object image;

a second optical system for forming [an] a second object image;

a second area sensor arranged in the approximate image forming plane of the second optical system for receiving the light of the second object image;

a signal reader for reading a first photoreception signal group from said first area sensor, a second photoreception signal group from said second area sensor and a third photoreception signal group from said second area sensor;

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a position detector for detecting a position of a first portion of the second object image relative to the first image based upon the second photoreception signal group [which corresponds to] and the first photoreception signal group[, a] and for detecting a position of a second portion of the second object image relative to the first object image based upon the third photoreception signal group [which corresponds to] and the first photoreception signal group;

an angle detector for detecting [the] a magnitude of [the] an angle of the second object image incident upon [against] said second area sensor based on the detected positions; and

a distance detector for calculating [the] an object distance based on [the] a distance between [the] analogous object images formed on the first and the second area sensors.

10. (Amended) A distance measuring device according to claim 9, wherein said distance detector includes a distance [corrector] correcter for correcting the distance between analogous object images formed on the first and the second area sensors to a corrected distance that would be obtained if [when] the second object [is in] image were oriented at a predetermined [magnitude] angle [against] relative to said second area sensor, and that calculates the object distance using the corrected distance.

11. (Amended) An image sensing device comprising:

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an optical system for forming an object image;

a first sensor array arranged in the approximate image forming plane of the optical system for receiving the light of the object image;

a second sensor array arranged in the approximate image forming plane of the optical system for receiving the light of the object image;

a signal reader for reading a first photoreception signal series from said first sensor array and a second photoreception signal series from said second sensor array;

a position detector for detecting a position of a portion of the object image relative to another portion of the object image based upon the second photoreception signal series [which corresponds to] and the first photoreception signal series; and

an angle detector for detecting [the] a magnitude of [the] an angle of the object image relative to [against] said sensor arrays based on the detected position.

12. (Amended) An image sensing device according to claim 11, wherein said angle detector detects the angle of the object image relative to [and] said sensor [array] arrays by means of data of relative positional relationship of said sensor arrays in said image sensing device.

15. (Amended) An image sensing device comprising:

an optical system for forming an object image;

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an area sensor arranged in the approximate image forming plane of the optical system for receiving the light of the object image;

a signal reader for reading a first photoreception signal group from said area sensor and a second photoreception signal group from said area sensor; [and]

a position detector for detecting a position of a portion of the object image relative to another portion of the object image based upon the second photoreception signal group [which corresponds to] and the first photoreception signal group; and

an angle detector for detecting [the] a magnitude of [the] an angle of the object image relative to [against] said area sensor based on the detected position.

16. (Amended) An image sensing device according to claim 15, wherein said angle detector detects the angle of the object image relative to said area [and said ara] sensor by means of data of relative positional relationship of the detected position and said area sensor in said image sensing device.